INDEX OF PUBLISHED MATERIAL—1953

Mining World

Volume 15,
Numbers 1 to 4, and 6 to 13

World Mining*

Volume 6,
Numbers 1 to 4, and 6 to 13

Month Page

AUTHOR INDEX

Borsting, Asbjorn, "Sydvaranger Electric Power" ..... Oct., 69
Brown, Whitman E., Hubbard, Judson S., and Humphreys, I. B., "How Humphreys Spiral Concentrator is Used in Modern Ore Dressing Practice" ..... May, 40*
Bugge, Jens A. W., "Sydvaranger Geology" ..... Oct., 52*
Burns, R. L., "Custom Milling Mesabi Iron Ores" ..... July, 41*
"Jumbos in Shrinkage Stopes Pay Off at the Esmeralda" ..... Aug., 44*
"Minas de Iguala's 1,000-Ton-Per-Day Mill At Parral Treats Esmeralda Lead-Zinc Ore" ..... Sept., 52*
Digre, Marcus, "Sydvaranger Milling" ..... Oct., 60*
Gibson, W. B., "Truck Torque Converters Save Money on Tough Mine Hauls" ..... June, 93*
Hubbard, Judson S., Humphreys, I. B., and Brown, Whitman, E., "How Humphreys Spiral Concentrator is Used in Modern Ore Dressing Practice" ..... May, 40*
Humphreys, I. B., Hubbard, Judson S., and Brown, Whitman E., "How Humphreys Spiral Concentrator is Used in Modern Ore Dressing Practice" ..... May, 40*
Kelly, John E., "Study Shows That Bauxite, Gold, Silver, and Alloy Metals Pay Highest Tax Rates" ..... Feb., 43
McBurney, T. Chester, "What Rare Elements Are in Your Ore?" ..... April, 32*
Mayo, Robert S., "How to Use Grouting to Control Water Inflow to Mine Workings" ..... April, 37*
Meyer, Ulf Smith, "Sydvaranger Mining" ..... Oct., 54*
Mitchell, John D., See "Lost Mines and Buried Treasures"
Nelson, Roy A., "How to Find Power Cable Faults" ..... Aug., 56
Roberson, A. H., "Zirconium, Atomic Power Metal" ..... July, 54
Sergeant, P. J., and Wegkamp, Karel, "London Calls the Market Tune" ..... Aug., 49*
Standerline, G. V., "How English Mine Expands Output" ..... Feb., 30*
Stavang, Arne, "Sydvaranger Mill Control" ..... Oct., 67*
Taber, John W., "Montana's Crystal Mt. Fluorite Deposit is Big and High Grade" ..... June, 43*
Trischka, Carl, "Southwest Porphyry Coppers Now in Period of Greatest Activity" ..... Dec., 43*
Waldron, Howard L., "Hamme Mine Doubles Productive Capacity" ..... Sept., 47*
"Mechanization and Trackless Mining Slash Costs at North Friends Mine" ..... Dec., 38*
"New Hearth Charge Assures J & L a Better, More Uniform Sinter" ..... July, 49*
Waldron, Howard L., and Walters, Lewis J., "Tungsten Mining Corporation's Expanded Mill" ..... Nov., 42*
Walters, Lewis J., and Waldron, Howard L., "Tungsten Mining Corporation's Expanded Mill" ..... Nov., 42*
Wanderer, See the Wanderer Index
Wegkamp, Karel and Sergeant, P. J., "London Calls the Market Tune" ..... Aug., 49*
Wolle, Muriel Sibell, See "Mining Camps"
Wood, Russell L., "Black Hills Uranium Report" ..... May, 46*
Wright, Charles Will, "Mineral Consolidation" ..... March, 52

COMMODITY INDEX

ANTIMONY

World's Richest Antimony Mine ..... June, 47*

CHROMITE

Second HMS Unit Will Double Refractory Chromite Output at Masinloc, Philippines ..... July, 40*

COBALT

From Africa Comes Cobalt ..... Nov., 48*
Northfield Explores Idaho Cobalt ..... Aug., 55

COPPER

Copper's Newest Big Open Pit ..... Jan., 26*
First Copper From Yerington ..... Dec., 53
Inspiration is Combining Open Pit Mining and Underground Haulage ..... Sept., 42*
Southwest Porphyry Coppers Now in Period of Greatest Activity ..... Dec., 43*
Yerington Progress Report ..... July, 38*

FLUORSPAR

Kaiser Mills Nevada Fluospar ..... Nov., 38*
Montana's Crystal Mt. Fluorite Deposit is Big and High Grade ..... June, 43*

GOLD

African Grab Sets Shaft Record ..... Aug., 52*
Siskon Corporation Opens California's Newest Gold Mine ..... Dec., 56

IRON

Custom Milling Mesabi Iron Ores ..... July, 41*
Dewatering One of the Wettest Open Pits on Mesabi Iron Range ..... May, 55
Drilling Improvements Make Champion Iron Mine Operations Economically Feasible Again ..... Feb., 41
Eagle Mt. Iron Mine Expansion ..... May, 53
How English Mine Expands Output ..... Feb., 30*
Metallurgy is a Mine Maker ..... June, 59*
New Hearth Charge Assures J & L a Better, More Uniform Sinter ..... July, 49*
Orinoco Nears First Shipment ..... Dec., 50*

LEAD-ZINC

Canadians Use New Methods ..... Feb., 35*
Eureka Corporation Found It ..... Aug., 40*
Iron King Uses Close Control ..... Feb., 26*
Jumbos in Shrinkage Stopes Pay Off at the Esmeralda ..... Aug., 44*
London Calls the Market Tune ..... Aug., 49*
Minas de Iguala's 1,000-Ton-Per-Day Mill at Parral Treats Esmeralda Lead-Zinc Ore ..... Sept., 52*
National Lead Company Driving 16 by 14-Foot Crosscut 2,250 Feet to Velie Swalley ..... May, 38*
Revised Mining at Iron King ..... March, 34*
Toho Aen Company Enlarges Japanese Lead Zinc Smelter, Adds Sulphuric Acid Plant ..... Sept., 51*
Van Stone, American Smelting's Newest Zinc Operation ..... April, 26*

MANGANESE

Wenden Purchase Depot, The ..... Nov., 53

MICA

Strategic Mica From Idaho ..... Jan., 31*

SILVER

El Mochito Makes Silver-Lead Recovery In Presence of Interfering Manganese Oxides ..... April, 36*

SULPHUR

New Sulphur Refining Process ..... May, 49*

TACONITE

See Title Index, "The Sydvaranger Story"

TUNGSTEN

French Mines Double Tungsten Production ..... Dec., 48*
Hamme Mine Doubles Productive Capacity ..... Sept., 47*
Kennametal Develops Nevada Mine ..... Dec., 54
Tungsten From "Down Under" ..... Jan., 34*
Tungsten Mining Corporation's Expanded Mill ..... Nov., 42*

URANIUM

Black Hills Uranium Report ..... May, 46*

Month Page

ZINC

Barvue Mines Limited ..... March, 40*
Here's the Start of the Young Mine ..... July, 52*
Mechanization and Trackless Mining Slash Costs at North Friends Mine ..... Dec., 38*

ZIRCONIUM

Atomic Power Metal, Zirconium ..... July, 54

COMPANY INDEX

American Smelting and Refining Company ..... April, 26*
American Zinc Company of Tennessee ..... Dec., 38*
American Zinc, Lead and Smelting Company ..... July, 52*
Anaconda Copper Mining Company ..... July, 38*
Dec., 53
Anglo American Corporation of South Africa, Limited ..... March, 47*
Bagdad Copper Corporation ..... April, 73
Barvue Mines, Ltd. ..... March, 40*
Benguet Consolidated Mining Co. ..... July, 46*
Canadian Exploration, Limited ..... Feb., 35*
Consolidated Murchison (Transvaal) Goldfields and Development Co., Ltd. ..... June, 47*
Coons-Pacific Isle Company ..... July, 41*
Crystal Mountain Fluorspar Mines ..... June, 43*
Eureka Corporation, Ltd. ..... Aug., 40*
Free State Geduld Mines, Ltd. ..... March, 47*
Sept., 67*
General Services Administration ..... Nov., 53
M. A. Hanna Company ..... May, 55
Idaho Beryllium & Mica Corporation ..... Jan., 31*
Inspiration Consolidated Copper Company ..... Sept., 42*
Jones & Laughlin Steel Corporation ..... June, 39*
July, 49*
Kaiser Aluminum and Chemical Corporation ..... Nov., 38*
Kaiser Steel Corporation ..... May, 53
Kennametal, Inc. ..... Dec., 54
Kennecott Copper Corporation ..... Jan., 26*
King Island Scheelite (1947) Ltd. ..... Jan., 34*
Minas de Iguala, S.A. ..... Aug., 44*
Sept., 52*
National Lead Company ..... May, 38*
New York & Honduras Rosario Mining Company ..... April, 36*
Northfield Mines, Ltd. ..... Aug., 55
North Range Mining Co. ..... Feb., 41
Orinoco Mining Company ..... Dec., 50*
Santon Mining Company, Ltd. ..... Feb., 30*
Shattuck Denn Mining Corporation ..... Feb., 26*
March, 34*
Siskon Corporation ..... Dec., 56
Societe Languedocienne de Recherches et d'Exploitations Minieres ..... May, 49*
A/S Sydvaranger (special issue) ..... Oct., 47*
Toho Aen Mining Company ..... Sept., 51*
Tungsten Mining Corporation ..... Sept., 47*
Nov., 42*
Union Miniere du Haut-Katanga ..... Jan., 38*
Vlakfontein Gold Mining Company, Ltd. ..... Aug., 52*

CONVENTION INDEX

American Mining Congress
American Mining Congress Will Hold Convention at Seattle in September ..... Aug., 60
Seattle Conventions Hears of Need for U. S. Mineral Policy ..... Nov., 57
Seattle Will Welcome Western Mining Men on September 21st ..... Sept., 61
Colorado Mining Association
United Lead-Zinc Mining Industry Forms Plan at Colorado Meeting ..... April, 41
Idaho Mining Association
Idaho Mining Association Celebrates Its 50th Anniversary of Services to Industry ..... Sept., 57
Northwest Mining Association
Record Northwest Convention Features Butte Today, Zinc Tomorrow, and Mining's Future ..... Jan., 41
University of Minnesota Mining Symposium
Minnesota Miners Talk Blasting and Beneficiation at Symposium ..... March, 49

* *World Mining* articles

Month Page

EDITORIAL INDEX

A Job Well Done ..... July, 31
Challenging Obligation ..... Sept., 35
Conventions ..... Jan., 21
Lead and Zinc Tariffs ..... Nov., 31
Meet Marvin Hustad ..... Nov., 31
Mining Fits Every Criterion ..... June, 31
1953 in Review ..... Dec., 29
October is Sydvaranger Issue ..... Sept., 35
Preserve Lead and Zinc Industry ..... March, 29
Report From Europe ..... July, 31
Report From Norway ..... Aug., 31
Russian Economic Warfare ..... Oct., 42
U. S. Bureau of Mines Director ..... Aug., 31
Wake Up United States Miners ..... Feb., 21
Western Mining Camps ..... Sept., 35

LOCALITY INDEX
(United States)

ARIZONA

Copper's Newest Big Open Pit ..... Jan., 26*
Inspiration is Combining Open Pit Mining and Underground Haulage .. Sept., 42*
Iron King Uses Close Control ..... Feb., 26*
Revised Mining at Iron King ..... March, 34*
Southwest Porphyry Coppers Now in Period of Greatest Activity ..... Dec., 43*
Wendon Purchase Depot, The ..... Nov., 53
World's Largest Truck to Bagdad Copper ..... April, 73

CALIFORNIA

Eagle Mt. Iron Mine Expansion ..... May, 53
Siskon Corporation Opens California's Newest Gold Mine ..... Dec., 56

IDAHO

Northfield Explores Idaho Cobalt ..... Aug., 55
Strategic Mica From Idaho ..... Jan., 31*

KANSAS

National Lead Company Driving 16 by 14-Foot Crosscut, 2,250 Feet to Velie Swalley ..... May, 38*

MICHIGAN

Drilling Improvements Make Champion Iron Mine Operations Economically Feasible Again ..... Feb., 41

MINNESOTA

Custom Milling Mesabi Iron Ores .... July, 41*
Dewatering One of the Wettest Open Pits On Mesabi Iron Range ..... May, 55

MONTANA

Montana's Crystal Mt. Fluorite Deposit is Big and High Grade ..... June, 43*

NEVADA

Eureka Corporation Found It ..... Aug., 40*
First Copper From Yerington ..... Dec., 53
Kaiser Mills Nevada Fluorspar ..... Nov., 38*
Kennametal Develops Nevada Mine .... Dec., 54
Yerington Progress Report ..... July, 38*

NEW MEXICO

Southwest Porphyry Coppers Now in Period of Greatest Activity ..... Dec., 43*

NEW YORK

Metallurgy Is a Mine Maker ..... June, 39*
New Hearth Charge Assures J & L a Better, More Uniform Sinter ..... July, 49*

NORTH CAROLINA

Hamme Mine Doubles Productive Capacity ..... Sept., 47*
Tungsten Mining Corporation's Expanded Mill ..... Nov., 42*

SOUTH DAKOTA

Black Hills Uranium Report ..... May, 46*

TENNESSEE

Here's the Start of the Young Mine .... July, 52*
Mechanization and Trackless Mining Slash Costs at North Friends Mine .... Dec., 38*

WASHINGTON

Van Stone, American Smelting's Newest Zinc Operation ..... April, 26*

LOCALITY INDEX
(Foreign)

AUSTRALIA

Tungsten From "Down Under" ..... Jan., 34*

BELGIAN CONGO

From Africa Comes Cobalt ..... Nov., 48*
More Power For Congo Mines ..... Jan., 38*

Month Page

CANADA

Barvue Mines, Ltd. ..... March, 40*
Canadians Use New Methods ..... Feb., 35*

ENGLAND

How English Mine Expands Output .... Feb., 30*
London Calls the Market Tune ..... Aug., 49*

FRANCE

French Mines Double Tungsten Production ..... Dec., 48*
New Sulphur Refining Process ..... May, 49*

HONDURAS

El Mochito Makes Silver-Lead Recovery In Presence of Interfering Manganese Oxides ..... April, 36*

ITALY

Italian Mines Using Roof Bolts ..... Dec., 49*

JAPAN

Toho Aen Company Enlarges Japanese Lead Zinc Smelter, Adds Sulphuric Acid Plant ..... Sept., 51*

MEXICO

Jumbos In Shrinkage Stopes Pay Off at the Esmeralda ..... Aug., 44*
Minas de Iguala's 1,000-Ton-Per-Day Mill at Parral Treats Esmeralda Lead-Zinc Ore ..... Sept., 52*
Southwest Porphyry Coppers Now in Period of Greatest Activity ..... Dec., 43*

NORWAY

See Title Index, "The Sydvaranger Story"

ORANGE FREE STATE

Free State Geduld Successfully Plugs No. 2 Shaft Bottom to Seal Off Water ..... Sept., 67*
Surface Water Pumped Into Shaft .. March, 47*

PHILIPPINE ISLANDS

Second HMS Unit Will Double Refractory Chromite Output at Masinloc, Philippines ..... July, 46*

UNION OF SOUTH AFRICA

African Grab Sets Shaft Record ..... Aug., 52*
World's Richest Antimony Mine ..... June, 47*

VENEZUELA

Orinoco Nears First Shipment ..... Dec., 50*

LOST MINES AND BURIED TREASURES

Dark Canyon Gold ..... Aug., 61
The Lost San Antone Placers ..... Jan., 50
The Old Papago's Mine ..... June, 58

MINING CAMPS

Cornucopia: Oregon Gold Camp ..... Sept., 63
Gold Camps of the Baca Grant ..... July, 61
Gold Hill, Boulder's First Camp ..... May, 57
Rico, San Juan Silver Camp ..... Dec., 58
Turret and Whitehorn ..... Feb., 46

MONEY MAKING METHODS

Electric Rotary Drilling Test ..... Nov., 47*
Ground Conditions Set Free State Sinking Rates ..... Feb., 45
Heating Screen Cloths ..... May, 56
How Bunker Hill "Stair Step" Block Caves Low-Dip Lead-Zinc Ore Body in Quartzite ..... July, 57
How to Pump Acid Mine Water ..... Jan., 39
New Stoping Machine Does Three Jobs at the Grandview ..... Jan., 39
Planned Card System Speeds Sample Record and Analysis ..... April, 39*
Radio Communication From Transitman-to-Rodman ..... Feb., 45
Shovel Bucket Salvaged by Correct Welding ..... May, 56
Sidney Successfully Pins Slabs and Blocky Ground ..... Feb., 45
Spirals on Bit and Drill Rod ..... Nov., 47*
Split Washers Speed Trammer Gauge Changes ..... Nov., 47*
Stop Leaks with Navy Patch ..... April, 39*
Timber Bolts Hold Back In Ontario Base Metal Mine ..... Nov., 47*

TITLE INDEX

African Grab Sets Shaft Record ..... Aug., 52*
Barvue Mines Ltd. ..... March, 40*
Black Hills Uranium Report ..... May, 46*
Canadians Use New Methods ..... Feb., 35*

Month Page

Charles Will Wright Recommends Mineral Consolidation ..... March, 52
Copper's Newest Big Open Pit ..... Jan., 26*
Custom Milling Mesabi Iron Ores ..... July, 41*
Dangers in the Antimony Situation .... Jan., 24
Dewatering One of the Wettest Open Pits on the Mesabi Iron Range ..... May, 55
Drilling Improvements Make Champion Iron Mine Operations Economically Feasible Again ..... Feb., 41
Eagle Mt. Iron Mine Expansion ..... May, 53
El Mochito Makes Silver-Lead Recovery In Presence of Interfering Manganese Oxides ..... April, 36*
Eureka Corporation Found It ..... Aug., 40*
First Copper From Yerington ..... Dec., 53
Free State Geduld Successfully Plugs No. 2 Shaft Bottom to Seal Off Water ..... Sept., 67*
French Mines Double Tungsten Production ..... Dec., 48*
From Africa Comes Cobalt ..... Nov., 48*
Hamme Mine Doubles Productive Capacity ..... Sept., 47*
Here's the Start of the Young Mine .. July, 52*
House Small Business Committee Hears Western Mine Operators ..... June, 53*
How English Mine Expands Output .... Feb., 30*
How the Humphreys Spiral Concentrator is Used In Modern Ore Dressing Practice ..... May, 40*
How to Find Power Cable Faults ..... Aug., 56
How to Use Grouting to Control Water Inflow to Mine Workings .... April, 37*
Inspiration is Combining Open Pit Mining and Underground Haulage .... Sept., 42*
Iron King Uses Close Control ..... Feb., 26*
Italian Mines Using Roof Bolts ..... Dec., 49*
Jumbos in Shrinkage Stopes Pay Off at the Esmeralda ..... Aug., 44*
Kaiser Mills Nevada Fluorspar ..... Nov., 38*
Kennametal Develops Nevada Mine .... Dec., 54
London Calls the Market Tune ..... Aug., 49*
Mechanization and Trackless Mining Slash Costs at North Friends Mine .. Dec., 38*
Metallurgy is a Mine Maker ..... June, 39*
Minas de Iguala's 1,000-Ton-Per-Day Mill at Parral Treats Esmeralda Lead-Zinc Ore ..... Sept., 52*
Mining in the Next Four Years ..... Jan., 22
Montana's Crystal Mt. Fluorite Deposit is Big and High Grade ..... June, 43*
More Power for Congo Mines ..... Jan., 38*
National Lead Company Driving 16 by 14-Foot Crosscut 2,250 Feet to Velie Swalley ..... May, 38*
New Hearth Charge Assures J & L a Better, More Uniform Sinter ..... July, 49*
New Slushers Are Tandems ..... Jan., 47
New Sulphur Refining Process ..... May, 49*
Northfield Explores Idaho Cobalt ..... Aug., 55
Orinoco Nears First Shipment ..... Dec., 50*
Revised Mining at Iron King ..... March, 34*
Second HMS Unit Will Double Refractory Chromite Output at Masinloc, Philippines ..... July, 46*
Siskon Corporation Opens California's Newest Gold Mine ..... Dec., 56
Southwest Porphyry Coppers Now in Period of Greatest Activity ..... Dec., 43*
Strategic Mica From Idaho ..... Jan., 31*
Study Shows That Bauxite, Gold, Silver, and Alloy Metals Pay Highest Tax Rates ..... Feb., 43
Surface Water Pumped Into Shaft .. March, 47*
The Sydvaranger Story
World's First Commercial Taconite Operation ..... Oct., 49*
Sydvaranger Geology ..... Oct., 52*
Sydvaranger Mining ..... Oct., 54*
Sydvaranger Primary Crushing ..... Oct., 57*
Sydvaranger Milling ..... Oct., 60*
Sydvaranger Mill Control ..... Oct., 67*
Sydvaranger Electric Power ..... Oct., 69
Sydvaranger Maintenance ..... Oct., 74
Sydvaranger's Plans ..... Oct., 76
Toho Aen Company Enlarges Japanese Lead Zinc Smelter, Adds Sulphuric Acid Plant ..... Sept., 51*
Truck Torque Converters Save Money on Tough Mine Haul ..... June, 93*
Tungsten From "Down Under" ..... Jan., 34*
Tungsten Mining Corporation's Expanded Mill ..... Nov., 42*
Van Stone, American Smelting's Newest Zinc Operation ..... April, 26*
Wendon Purchase Depot, The ..... Nov., 53
What Rare Elements Are in Your Ore? April, 32*
World's Largest Truck to Bagdad Copper ..... April, 73
World's Richest Antimony Mine ..... June, 47*
Yerington Progress Report ..... July, 38*
Zirconium, Atomic Power Metal ..... July, 54

THE WANDERER

Lurking Dangers ..... March, 90
Mucker to Executive—Our U.S.A. ..... July, 90
Reciprocal Trade ..... Sept., 99
The Enemy Within the Gates ..... Jan., 86
"This is Mine" ..... May, 85
"You Have No Rights Here" ..... Nov., 64

PROFESSIONAL DIRECTORY

One-Inch Card, $50 Yearly—½-Inch, $30 Yearly. Payable in Advance.

CONSULTING ENGINEERS:

C. P. KEEGEL
Mining & Metallurgical Engineer
Administration Appraisal
707 S. 6th St. Tel 571
Las Vegas, Nevada

Cables: KELLCON Sterling 1079
JOHN E. KELLY
Consultant in Natural Resources
Washington Representation
Minerals Petroleum Timber Power Water
316 Southern Building Washington 5, D.C.

Aerogeological Exploration
Color Aerial Photography
Exploration Projects
PHILIP A. LAYLANDER
Geologist
Box 241 Fallon, Nevada

ARNOLD H. MILLER
CONSULTING ENGINEER
General Mine, Mill and Industrial Appraisals, Plant Design, Mechanization.
Cable: "ALMIL" Tel. Cortland 7-0635
120 Broadway New York City 5, N. Y.

MURPHY, F. M.
Consulting Mining Geologist
1201 Maryland Parkway, Las Vegas, Nev.

RODGERS PEALE
Consulting Mining Geologist
315 Montgomery St. San Francisco 4, Calif.

FRANKLIN L. C. PRICE
Registered Mining Engineer
Examinations——Valuations
1105 Northern Life Tower—Tel. MAin 5134
Seattle 1, Wash.

ARTHUR R. STILL
Consulting Mining Geologist
Exploration Planning—Property Examinations
Engineering and Geologic Mapping
Small Mine Management
Box 1512 Prescott, Arizona

MILL DESIGN & CONSTRUCTION
Send for Free Bulletin
O. W. WALVOORD CO.
401 High Street • Denver, Colorado

John Q. St. Clair
Consulting Mining Geologist
586 Buchanan Ave.
Norman, Oklahoma

CLIFFORD R. WILFLEY
Mining Engineer
Consulting
2233 Grape St. EAst 0398
Denver 7, Colorado

CLYDE H. WILSON
GEOLOGICAL AND GEOPHYSICAL SURVEYS
Mineral Deposits • Water Supply
Oil Field Structure
WILSON EXPLORATION COMPANY
Los Angeles Salt Lake City
1727 Westerly Terrace Walker Bank Building

CHEMISTS, SAMPLERS, SHIPPERS' REP'S:

ARIZ. TESTING LABORATORIES
CLAUDE E. McLEAN, REGISTERED ASSAYER
Analytical and Consulting Chemists
Box 1888 817 W. Madison St. Phoenix

SHIPPERS' REPRESENTATIVES
at Tacoma Smelter for over 35 years
Control and Umpire Assaying
BENNETTS
Chemical Laboratory, Inc.
901 So. 9th Street • Tacoma 3, Wash.

B. W. DEASON V. E. WORSLEY
BLACK & DEASON
Assayers and Chemists
Ore Shippers Represented at all Smelters
P. O. Box #1888 Salt Lake City, Utah

THE COLORADO ASSAYING CO.
ASSAYERS, CHEMISTS, and
SPECTROGRAPHERS
Est. 1900
Gold, Silver each $1. both $1.50, Copper 75c. Send for Free Copy of our Mineralogist's Pocket Reference Giving Detailed Information on All the Principal Ores.
2013 WELTON ST., DENVER 1, COLORADO

DICKINSON LABORATORIES
Assayers—Chemists—Metallurgists—Umpires
Shippers Representatives at Local Smelters
Representatives at Mexican Border
Points for Shippers of Manganese and Fluorspar
1300 West Main Street El Paso, Texas

GOODALL BROTHERS
ASSAYERS AND CHEMISTS
SHIPPERS' REPRESENTATIVES
Established 1909
Helena Montana

HANKS, INC., ABBOT A.
ASSAYERS AND CHEMISTS
Supervision of Sampling at Smelters
Spectrographic Analysis
624 Sacramento St. San Francisco 11

HAWLEY & HAWLEY
W. E. HAWLEY, Mgr.
Assayers, Chemists, Ore Buyers
Shippers' Representative
P. O. Box 1060 Douglas, Arizona

Ledoux & Co. (Inc.)
Assayers Spectrographers Chemists
Shipping representatives at all seaports and refineries in the United States
359 Alfred Avenue Teaneck, N. J.

NEW WORLD EXPLORATION RESEARCH & DEVELOPMENT CORP.
Foreign & Domestic
Consultants
Geology Geophysics
Mine Management
Contract Diamond Drilling
Box 1206 Reno, Nevada

SMITH-EMERY COMPANY
Established 1910
Assayers—Chemists
Metallurgists
Spectrographers
Shippers' Representatives
781 East Washington Blvd., Los Angeles, Calif.
Member
American Council of Commercial Laboratories

Wood Assaying Co., Henry E.
Established 1878
ASSAYERS and CHEMISTS
2042 Broadway Denver 2, Colorado

DRILLING COMPANIES:

DIAMOND DRILL
Contracting Company
S. 18 Stone Spokane 15, Wash.
"DIA-HARD" CORE
BARRELS
AND
DIAMOND DRILLING SUPPLIES
Core and Churn Drill Contractors

R. S. McClintock
Diamond Drill Company
Spokane, Washington—Globe, Arizona
Diamond Core Drill Contractors
Manufacturer of Diamond Bits
and drilling accessories

PRODUCTS AND SUPPLIES:

VAN WATERS & ROGERS INC.
Flotation Chemicals, Mining Reagents
Largest and Most Complete Stocks
in Northwest
Seattle, Spokane, Portland, Boise